UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/503,140	02/11/2000	Tsuneo Hayashi	SONY-T0130	6142

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EXAMINER
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ART UNIT	PAPER NUMBER
2133	18

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 May 2003_ .

2a)☐ This action is **FINAL**.　　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-3,5-7,19,20 and 24-27_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3,5-7,19,20 and 24-27_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _20 May 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

　　If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All b)☐ Some * c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____ .

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

　　a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Drawings

1.   The corrected or substitute drawings were received on May 20, 2003. These

drawings are accepted.

Response to Amendment

2.   Applicant's arguments with respect to claims 1-3, 5-7, 19, 20 and 24-27 have

been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1, 6, 19, 20, 25 and 27 are rejected under 35 U.S.C. 102(b) as being

anticipated by Hayashi, Yasuhiro et al. (US 5784356 A, hereafter referred to as

Hayashi).

35 U.S.C. 102(b) rejection of claim 1.

Hayashi teaches a readout controlling apparatus for controlling reading conditions while

reading data from a recording medium (See Abstract, System Controller 29 in Figure 7

and col. 4, lines 61-67 in Hayashi), comprising: an error correcting means for correcting

errors in said read data (Correction Circuit 16 in Figure 7 of Hayashi is an error

correcting means for correcting errors in said read data); an error rate calculating

means for calculating an error rate of said errors in said read data (Error Rate Counter

31 is an error rate calculating means for calculating an error rate of said errors in said

read data); and a control means for dynamically controlling and adjusting an amplitude

of the signal superimposed on the signal applied to the laser diode (Figure 7 and col. 4,

lines 61-67 in Hayashi teach the system controller 29 performs control to increase the

gain of the variable gain amplifier 30 through the I/F circuit 26, thus increasing the

amplitude of the RF signal; Note: pickup 12 superimposes the digital write signal onto a

laser beam for transmission), based on the calculated error rate in order to reduce the

error rate wherein the adjustment occurs while reading user data from the disc in

response to the bit error rate exceeding a predetermined level (see Abstract in Hayashi:

Note: the apparatus in Hayashi is designed to allow counter-measures against data

read errors, hence is a means for dynamically controlling and adjusting an amplitude).

Note: in the phrase "an amount of light from a laser diode used in reading said data, or

a frequency of a signal superimposed on a signal applied to the laser diode or an

amplitude of the signal superimposed on the signal applied to the laser diode" only one

of the statements connected by or logic is required to be true in order for the statement

to be true, hence the previously quoted statement is true since the control means 29 in

Figure 7 of Hayashi is for dynamically controlling and adjusting an amplitude of the

signal superimposed on the signal applied to the laser diode (Figure 7 and col. 4, lines

61-67 in Hayashi teach the system controller 29 performs control to increase the gain of

the variable gain amplifier 30 through the I/F circuit 26, thus increasing the amplitude of

the RF signal; Note: pickup 12 superimposes the digital write signal onto a laser beam

for transmission).

35 U.S.C. 102(b) rejection of claim 6.

See RAM 17 in Figure 7, Hayashi.

35 U.S.C. 102(b) rejection of claims 19 and 27.

Hayashi teaches a recorder for recording data on a storage medium (See Abstract,

System Controller 29 in Figure 7 and col. 4, lines 61-67 in Hayashi), comprising: a

reading means for reading recorded data (see Pickup 12 in Hayashi); an error

correcting means for correcting errors in data read by the reading means (Correction

Circuit 16 in Figure 7 of Hayashi is an error correcting means for correcting errors in

said read data); an error rate calculating means for calculating an error rate (Error Rate

Counter 31 is an error rate calculating means for calculating an error rate of said errors

in said read data); and a control means for dynamically controlling and adjusting one or

more of the following recording characteristics (Figure 7 and col. 4, lines 61-67 in

Hayashi teach the system controller 29 performs control to increase the gain of the

variable gain amplifier 30 through the I/F circuit 26, thus increasing the amplitude of the

RF signal): a frequency of a signal superimposed on a signal applied to the laser diode;

or a speed of said recording medium wherein the adjustment occurs while reading user

data from the disc in response to the bit error rate exceeding a predetermined value

(Step 134 of Figure 125 in Hayashi is a means for dynamically controlling and adjusting

the speed of said recording medium wherein the adjustment occurs while reading user

data from the disc in response to the bit error rate exceeding a predetermined value,

Note: only one of the statements connected by or logic is required to be true in order for

the statement to be true).

35 U.S.C. 102(b) rejection of claim 20.

Note: The Abstract of Hayashi teaches that amplitude is adjusted by adjusting the gain.

In addition, the claim language of claim 20 is a subset of the claim language in claim 1

except for the use of the term "gain".

35 U.S.C. 102(b) rejection of claim 25.

Note: An amplitude is an RF signal characteristic. In addition, the claim language of

claim 20 is a subset of the claim language in claim 1 except for the use of term "RF

signal characteristics".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 2, 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Hayashi, Yasuhiro et al. (US 5784356 A, hereafter referred to as Hayashi) in view

of Takamine, Kouichi et al. (US 6240055 B1, hereafter referred to as Takamine).

35 U.S.C. 103(a) rejection of claims 2 and 3.

Hayashi, substantially teaches the claimed invention described in claim 1 (as rejected

above). In addition, Hayashi teaches said data is coded in units of code blocks (in col.

4, lines 33-46, Hayashi teaches the use of a C1xC2 product code); and said error

correcting means corrects errors in said code blocks (in col. 4, lines 33-46, Hayashi

teaches C1 correction processing). The Examiner would like to point out that generally

product code error correcting techniques not only have the ability to correct errors but to

also detect uncorrectable errors and that error rate consists of correctable as well as

uncorrectable errors, i.e., all detectable errors.

However Hayashi, does not explicitly teach the specific use of a specific error correction

technique that is capable of detecting uncorrectable errors to be added to the

correctable errors in determining the bit rate.

Takamine, in an analogous art, teaches the use of CRC which is an error correcting

techniques with the ability to correct errors but to also detect uncorrectable errors (col.

25, lines 63-67, Takamine). The Examiner would like to point out that error rate

consists of correctable as well as uncorrectable errors, i.e., all detectable errors.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Hayashi with the teachings of Takamine by including the

specific use of an error correction technique that is capable of detecting uncorrectable

errors to be added to the correctable errors in determining the bit rate. This modification

would have been obvious to one of ordinary skill in the art, at the time the invention was

made, because one of ordinary skill in the art would have recognized that an error

correction technique that is capable of detecting uncorrectable errors to be added to the

correctable errors in determining the bit rate would provide the opportunity to calculate

the total detectable error rate (Note: error Rate is a standard calculation based on

detectable errors).

35 U.S.C. 103(a) rejection of claim 7.

Col. 15, lines 9-14 in Takamine teach that parity errors are counted for use in

calculating error rates; hence the error rate is based on cumulative addition values.

5.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi,

Yasuhiro et al. (US 5784356 A, hereafter referred to as Hayashi) in view of in view of

Lee, Woo-Nyun et al. (US 5930448 A, hereafter referred to as Lee).

35 U.S.C. 103(a) rejection of claim 5.

Hayashi, substantially teach the claimed invention described in claims 1-3 (as rejected, above). In addition, Hayashi teaches said data is coded in units of code blocks (in col. 4, lines 33-46, Hayashi teaches the use of a C1xC2 product code); and said error correcting means corrects errors in said code blocks (in col. 4, lines 33-46, Hayashi teaches C1 correction processing). The Examiner would like to point out that product codes are a general error-correcting technique primarily used for recording mediums using inner and outer codes arranged in columns and rows.

However, Hayashi, do not explicitly teach the specific use of Inner and outer code **arranged in columns and rows**.

Lee, in an analogous art, teaches the specific use of Inner and outer code **arranged in columns and rows** (See Figure 1, Lee).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hayashi with the teachings of Lee by including use of Inner and outer codes **arranged in columns and rows**. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that use of readily available error correcting techniques such as Inner and outer codes **arranged in columns and rows** would provide the opportunity to calculate a bit error rate (see Fig. 3, Lee).

6.   Claims 24 and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over

Hayashi, Yasuhiro et al. (US 5784356 A, hereafter referred to as Hayashi) in view of

Noguchi, Tatsumi et al. (US 5406429 A, hereafter referred to as Noguchi).

35 U.S.C. 103(a) rejection of claims 24 and 26.

Hayashi, substantially teaches all the limitations of claims 24 and 26 except as noted

below (Note: the limitations of claims 24 and 26, except as noted below, are

substantially the same as in claim 1, rejected, above):

However Hayashi, does not explicitly teach the specific use of controlling various other

features such inclination and filter characteristics.

Noguchi, in an analogous art, teaches adjusting parameters to optimize reproduction

based on bit error rate (see Title and Abstract, Noguchi), which would encompass

inclination and filter characteristics.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Hayashi with the teachings of Noguchi by combining the

already existing error control signals based on error rate derived from an error

correction technique taught in the Hayashi patent to adjust additional parameters to

optimize reproduction. This modification would have been obvious to one of ordinary

skill in the art, at the time the invention was made, because one of ordinary skill in the

art would have recognized that use of controlling various other features such inclination,

filter characteristics and speed would provide the opportunity to optimize reproduction
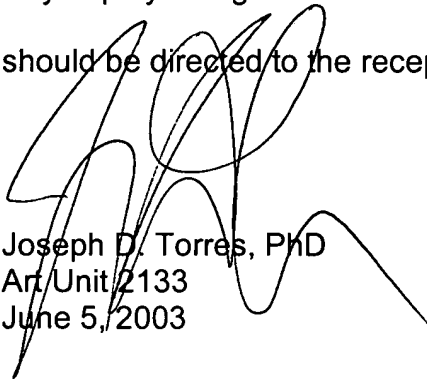
based on bit error rate.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Yoshimaru, Tomohisa et al. (US 4755980 A) teaches an optical

disk on which information is recorded and reproduced by focused light and a

recording/reproducing device for recording or reproducing information for the optical

disk.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph D. Torres whose telephone number is (703)

308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 746-7239

for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703)-746-7240.

Joseph D. Torres, PhD
Art Unit 2133
June 5, 2003